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Dear Sir or Ms.,

17-March-1995

Enclosed, please find 15 copies of our comment on ET docket 94-32, second NPRM. Please distribute copies to all of the commissioners.

Many Thanks



Bruce Perens
Board Member, Northern California Packet Association

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FCC MAIL ROOM

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

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MAR 17 1995

In the Matter of)

Allocation of Spectrum Below)
5 GHz Transferred from)
Federal Government Use)

ET Docket No. 94-32

FCC MAIL ROOM

COMMENT OF THE NORTHERN CALIFORNIA PACKET ASSOCIATION

Submitted: March 17, 1995

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Submitted by: Bruce Perens
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I. INTRODUCTION

1. Northern California Packet Association represents Radio Amateur digital packet radio operators in the Northern California area.
2. This is a comment upon FCC 95-47, the First Report and Order and Second Notice of Proposed Rule Making of ET Docket number 94-32, released on February 17, 1995.

II. BACKGROUND

1. In the Report and Order, FCC orders Radio Amateurs to share 2390-2400 MHz with Data PCS services, and continues the sharing of 2402-2417 MHz between Amateur Radio, Part 15, and the Industrial, Scientific, and Medical service. In the Second NPRM, FCC asks several questions regarding this sharing.

III. DISCUSSION

1. In the Electronic Communications and Privacy Act, Congress prohibited the sale of equipment that can receive the Cellular telephone service in the 800 MHz band and Part 15 wireless telephones in the 46-49 MHz band, and ordered FCC to enforce this prohibition. We are concerned that Part 15 and Data PCS manufacturers will persuade Congress to amend the Electronic Communications and Privacy Act to prohibit the sale and use of equipment that can eavesdrop on the operations of wireless telephones and other data communications devices operating in the 2390-2400 and 2402-2417 MHz bands, and in other bands that are shared with Radio Amateurs. Congress might then require FCC to deny type-approval to equipment that Amateurs would use to communicate in those bands. It is to the Radio Amateur's advantage that receivers for those bands continue to be available to the non-Amateur consumer, as they will then be less expensive for Amateurs to

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purchase because of economies of scale. We also observe that communications listeners employ such receivers in learning about radio while they are on the path to becoming a Radio Amateur. Thus, NCPA requests that FCC protect the right of any person to purchase and operate equipment that can receive communications in the 2390-2417 MHz band and other Amateur bands, to the extent that this is possible within FCC's charter.

2. We observe several likely scenarios for conflict between Amateurs and users of Data PCS or Part 15 equipment in the 2390-2417 MHz bands. We request that FCC take steps to protect Amateurs from these possible situations:
 - A. Portable Data PCS or Part 15 equipment is brought into a residential area far from its radio LAN. The portable system, although it is out of range of its base station, continues to transmit in an attempt to reconnect to the base. This causes unnecessary interference to Radio Amateurs located in that residential area. To avoid this scenario, we request that portable Data PCS and Part 15 equipment in the 2400 MHz band be required to determine when it is unable to receive its base station, and to avoid transmitting when that is the case. Implementing this requirement in the software driver or firmware of the equipment would be trivial.
 - B. Portable Data PCS or Part 15 equipment is connected to an unauthorized high-gain antenna at an employee's residence in an attempt to make it possible to "telecommute" to the business LAN. Or, a business attempts to implement a link between buildings, or even between communities, using unauthorized high-gain antennas. A Radio Amateur residing in the path between the two stations is exposed to higher-than-normal effective radiated power from these stations.
 - C. Part 15 or Data PCS equipment is located close to a site used for an Amateur link of 5-50 miles length. The Part 15 or PCS equipment raises the noise floor enough to make the longer-distance communication impossible.
 - D. Amateur equipment causes interference to a Part 15 or Data PCS operation of a business. Rather than go through coordination, the business uses a civil suit to drive the Amateur off the air, because the Amateur can not afford to fight such a suit. Or, a business uses financial pressure to cause a landlord to evict an Amateur from a tower site.
 - E. A Part 15 or Data PCS operation causes interference to a Radio Amateur. The building owner refuses to allow the Amateur access to a building in order to find the source of interference, or refuses to modify an interfering operation once it is found.
3. We are concerned that features of a Data PCS or Part 15 radio LAN that are intended to provide data communications security to the LAN users may make it more difficult for an Amateur to identify an interfering transmitter. We expect that the transmissions of Part 15 and Data PCS equipment will be encrypted, making it impossible to identify the origin of a transmission from its content. We do not see any provision requiring the manufacturer of Part 15 or Data PCS equipment to provide Amateurs with the details of the frequency-spreading codes and modulation schemes used by their equipment. Amateurs need this information in order to reliably identify an interfering transmitter. Given such information, an Amateur might be able to devise a way to mitigate interference from a particular type of equipment.
4. In the event that an Amateur experiences interference from a Part 15 or Data PCS operation, coordination should be possible given that the Amateur can identify the interfering transmitter and the person or

organization responsible for its use. FCC has clearly specified that Amateurs must identify their transmissions, but has not specified any means for Part 15 and Data PCS users to identify themselves. Thus, in an interference situation, the Amateur may be clearly identified while a Data PCS or Part 15 user is protected by anonymity. In the case of business LAN, FCC should require the periodic transmission of unencrypted identification, or should require the LAN operator to file information identifying their location and the person responsible for the transmitting equipment. In the case of home equipment, FCC should explicitly specify the procedure by which an Amateur can require coordination with the operator of interfering Part 15 or Data PCS equipment.

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